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W. S. H.

An  
Inaugural Dissertation  
on  
Fractility by

Charles H. Mathews

of  
Pennsylvania. -

11<sup>th</sup> Feb. 1881

No. 2

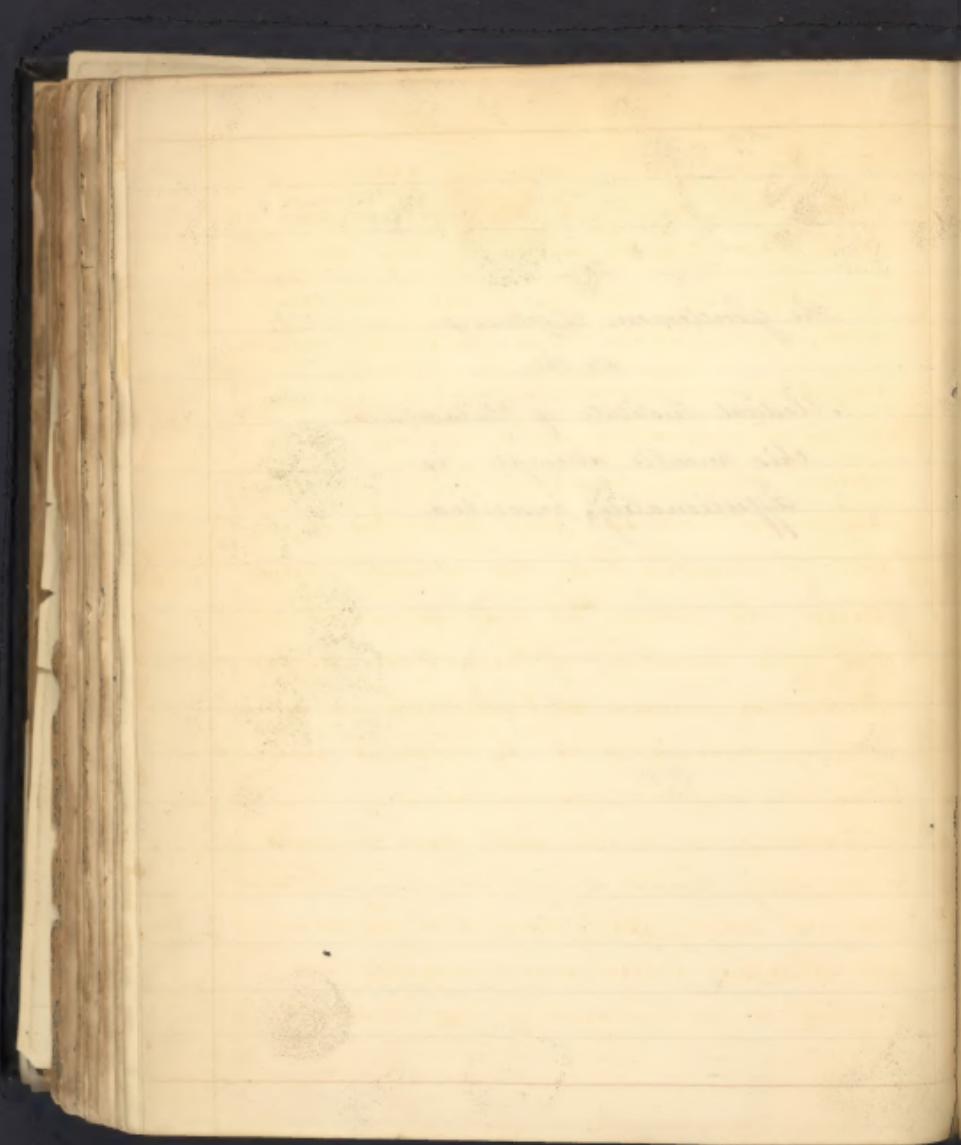
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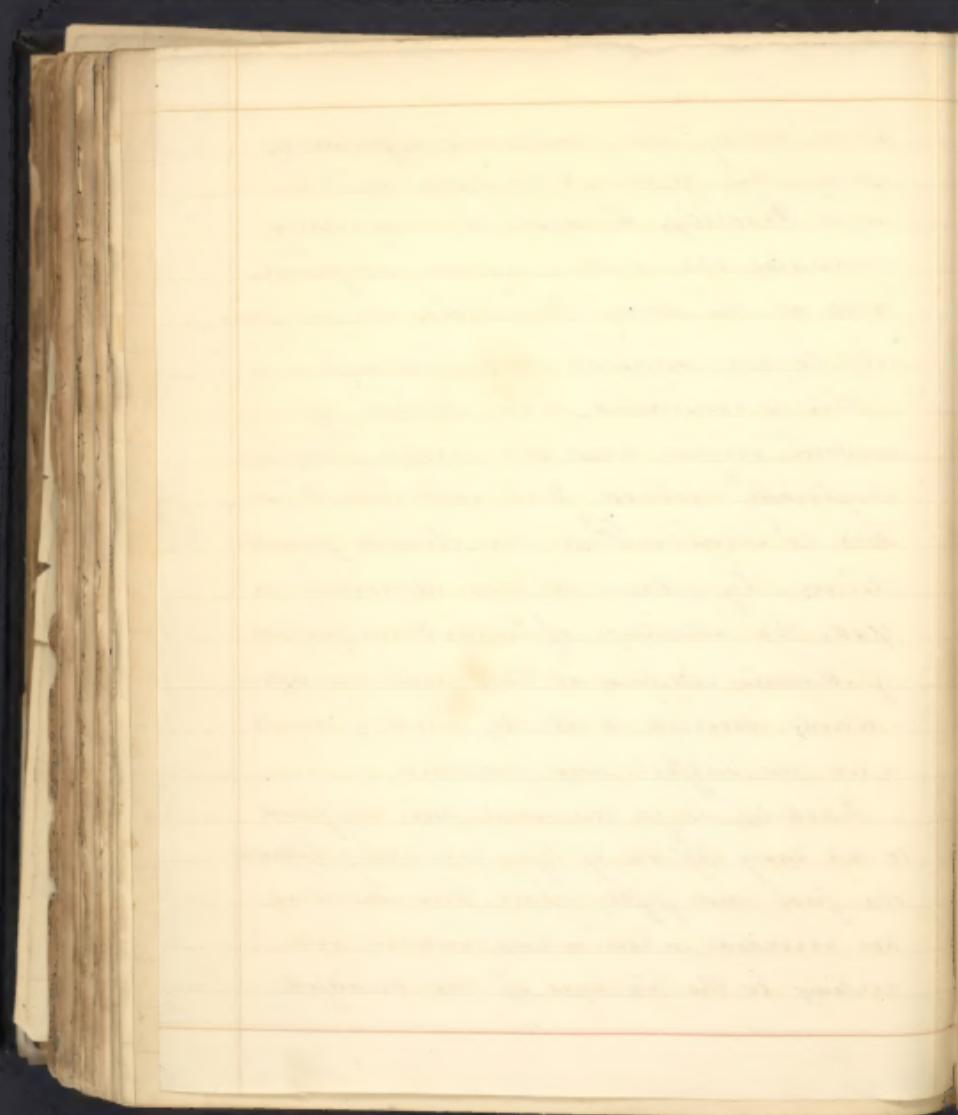
To  
The Gentlemen's Lecturers  
in the  
Medical Institute of Philadelphia  
this humble attempt is  
affectionately inscribed.



From among the numerous appellations given this disease, I have selected the term Fractilis, because it very clearly indicates the nature of the complaint, and at the same time gives an uniformity to the medical nomenclature.

This is considered as a disease of modern origin, and the credit of having originally noticed and described it is due to Martin Risi an obscure practitioner, by whom it was discovered in 1749; the attention of Doctor Home professor of Materia Medica at Edinburgh was afterwards directed to it; by whom a work upon the subject was published.

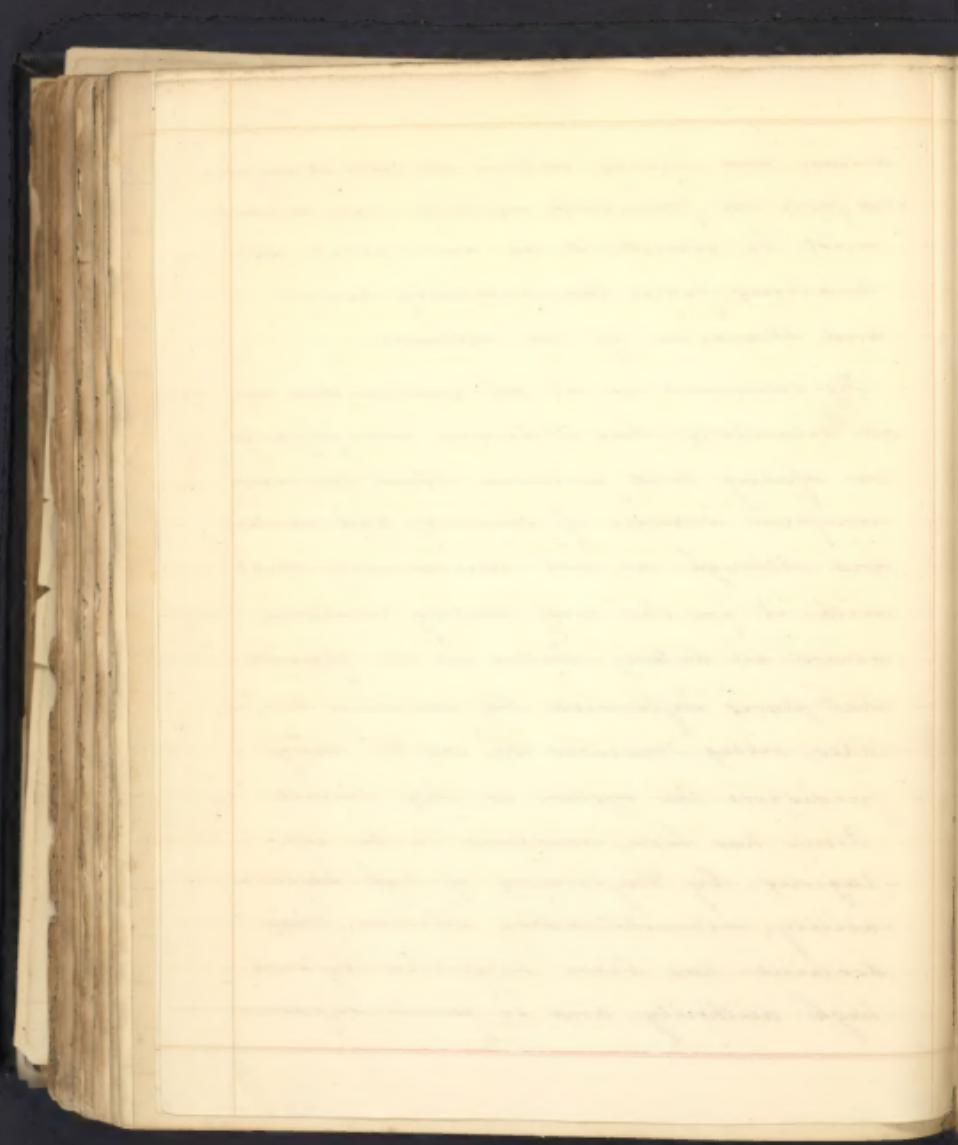
Fractilis is for the most part confined to an early period of life, occurring between the first and fifth years, but instances are recorded where adult subjects fell victims to the ravages of this dreadful



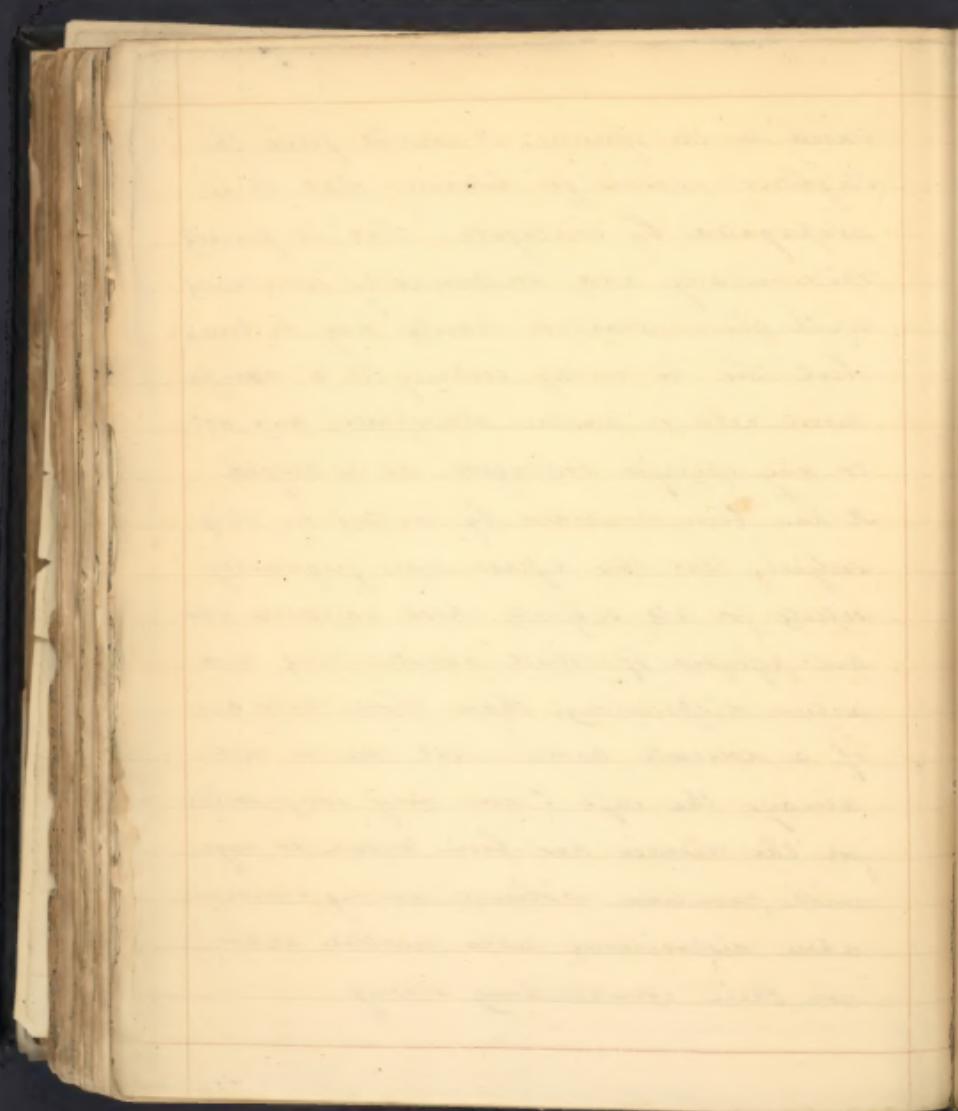
disease, and infants within the month suffered from this formidable malady; these however must be considered as anomalous deviations from the ordinary course and character of the disease.

Its occurrence is at all seasons and in all situations, but I believe more frequently in spring and autumn, than the more uniform seasons of summer and winter; and although we not uncommonly meet with it in the most healthy locations, almost all authority concur in the opinion, that places influenced by proximity to lakes, rivers, marshes the sea &c may predispose the system to this disease.

Croup has been considered to be more contagious by Physicians of high susceptibility; notwithstanding however this doctrine has been supported by such high authority, and so much confidence



placed in the opinion, I cannot find the  
 slightest reasons for believing that it is  
 propagated by contagion; that it prevails  
 epidemically and endemicly sometimes  
 with circumscribed limits may be true;  
 but this is owing entirely to a damp,  
 moist, cold or austere atmosphere, and not  
 to any specific contagion as is alleged.  
 It has been remarked by writers on this  
 subject, that this disease more frequently  
 selects for its subjects those children who  
 are possessed of robust constitutions and  
 active dispositions; than those who are  
 of a delicate habit: that this is not  
 always the case I am very confident;  
 for the disease has been known to rage  
 with peculiar violence, among children  
 whose dispositions were neither active,  
 nor their constitutions strong.

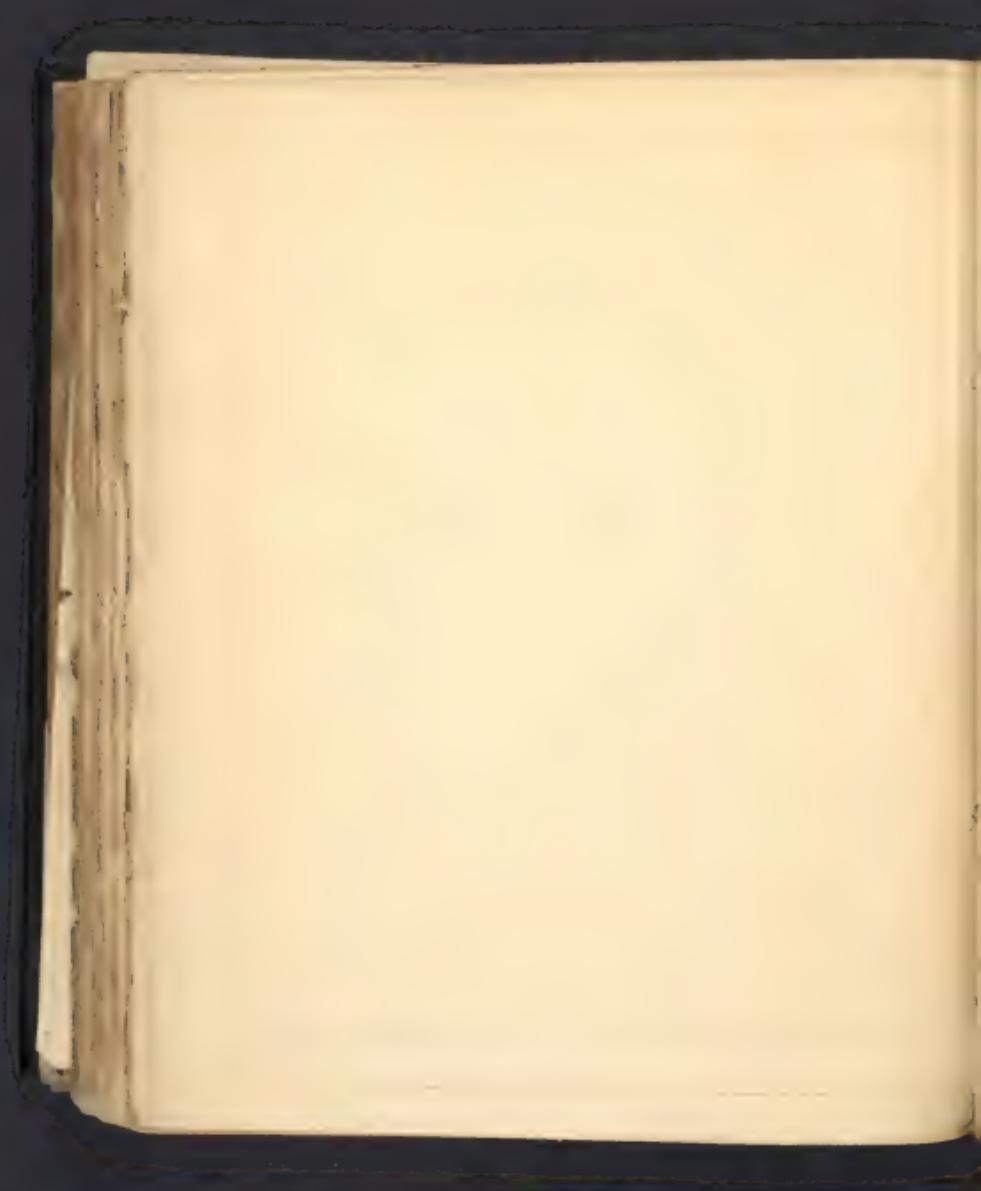


Sociological writers have divided Trachitis  
into Spasmodic and Inflammatory: the  
first is considered an affection of the muscles  
of the larynx: the second a state of fever  
with a local inflammation of the trachea.  
In the first, the symptoms come on suddenly  
in a very alarming manner, during the  
attack generally in the night whilst the  
child is sleeping, attended with great  
difficulty of breathing together with a sense  
of suffocation, and without any positive  
symptoms, there are intermissions for a  
considerable length of time in this distress,  
and then the disease returns with as much  
violence as at first: it appears to me, that  
in all cases of cough when it is sudden  
in its appearance, it must be one of this  
character, the only symptoms agreeing with  
this view of Painslosy, and distressing

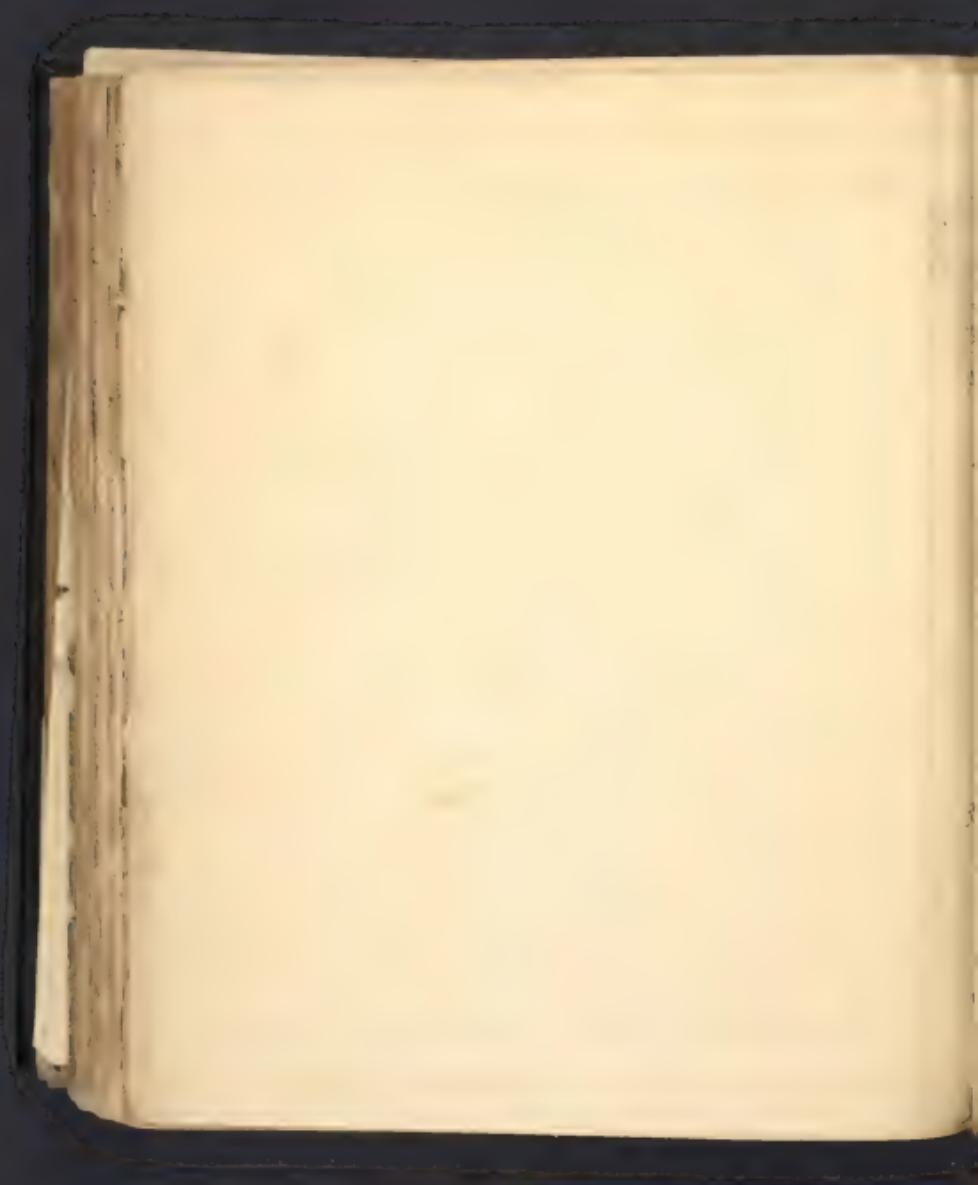


confirm its correctness, and what still  
greater weight much in favour of the  
disease is the affection being so readily  
removed by anti-haemorrhagia remedies; if  
the disease required at all times an  
inflammation it would be very difficult  
for these medicines to, powerfully and  
so completely to oppose it.

In the second or inflammatory species  
it first the symptoms are trivial; sometimes  
two attending a common cold; in  
some instances the affection comes on so  
slowly that the patient complains of  
some difficulty of breathing for several  
days before he is seriously ill, if a child  
he is drowsy, inactive, and pale; at  
night there is a hoarseness, attended  
with a dry cough, and difficulty of  
breathing, as soon as the affection of



breathing is considerable, the pulse becoming  
frequent, strong and hard; the voice has  
a peculiar ringing sound which has  
been compared to the crowing of a cock,  
the barking of a small dog, or the noise  
of ringing from a brazier etc. the eyes  
are dull and the face flushed; as the  
disease advances the symptoms communi-  
cate increase in violence. the state of  
breathing becomes such, "that the shoulders  
are raised at each inspiration, the  
abdominal muscles act strongly, and  
at the same time there is a violent  
alternate elevation and depression  
of the ribs and scapulae". it perhaps  
may not be improper for me now to  
remark that this stage of the complaint  
has been called "Boil'd Hives", from the  
circumstance of the abdominal muscles



being so violently affected the system becoming exhausted, the pulse small and quick, the extremities cold, and the final stage soon arrives, accompanied sometimes with convulsions, which terminate the miserable existence of the little sufferer, by a painful and premature death.

Such is the fatal conclusion usually attending this disease, if not counteracted by the most powerful remedies; unhappy the subjects of this complaint are for the most part too young to describe their sensations: and it is owing either to ignorance or an injudicious reliance on the "old medicatrix naturæ" that children curable in the former stages of croup, are left neglected by their parents and nurses, until it becomes confirmed and perhaps irremediable; thus.



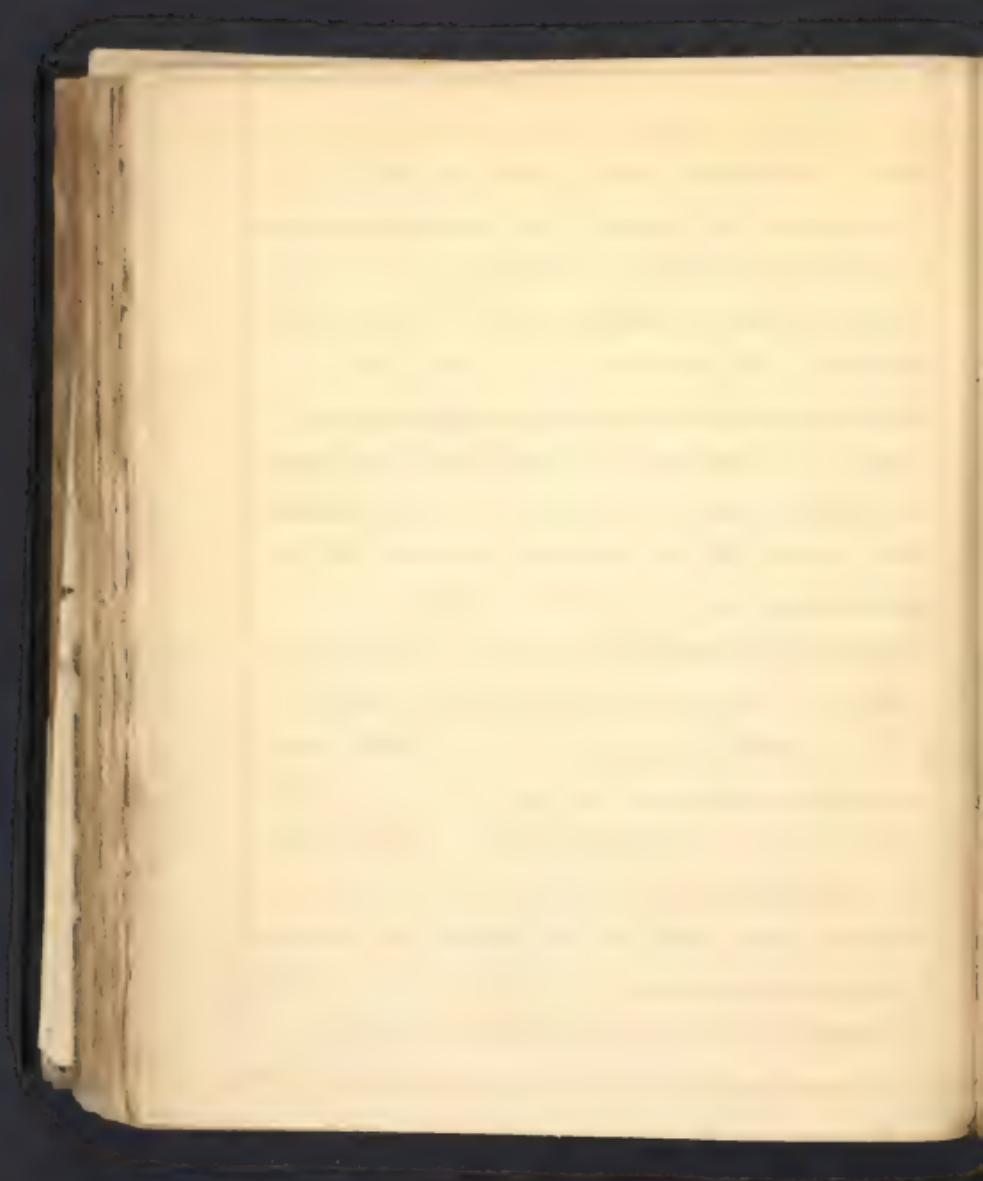
"In want of timely care,  
Millions have died of medicable wounds."  
Appearance on Dissection on laying  
open the trachea of those who die of this  
disease a preternatural membrane is  
sometimes found lining the whole in-  
ternal surface of the upper part of  
the trachea; formed either by coagulated  
lymph, or insipidated mucus. This  
membrane is supposed to fulfil its  
benefit purpose, simply by filling up  
the cavity of the trachea; and thus  
obstructing the passage of air to the  
lungs. But that the windpipe can  
receive a tube much smaller than this  
and yet be capable of admitting more air  
than will pass through the same plot  
tidily; must be evident to any one  
who will closely observe a preparation  
of it. From this circumstance alone



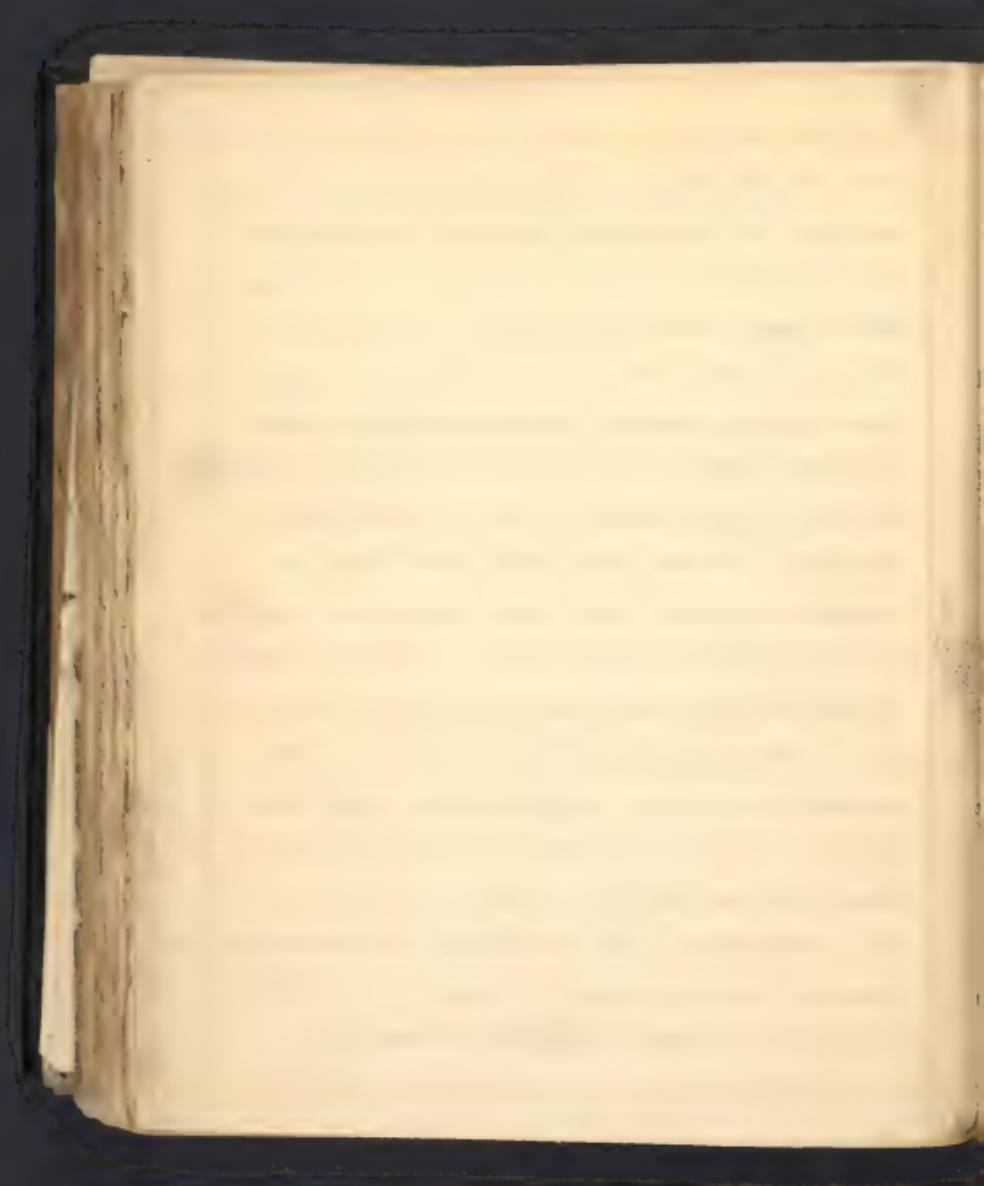
then, I conclude that this pectoralinal membrane, is never the immediate cause of death; but that it merely acts as an extraneous substance in the trachea, involving the muscles in spasm, and inducing suffocation.

From the post mortem appearances and the symptoms which attend the disease, there can be no doubt, but that it is spasmotic in its final stage.

Diagnosis - Trachitis may be confounded with calum to the great danger and detriment of the patient; for frequently whilst the unwary mother is nursing her tender offspring, (for what she deems a slight cold) the distressing period is at hand, when medical aid can no longer service; and the child fares a sacrifice to this disease - they may be distinguished



however by the sound of the voice in croup, and by the absence of sneezing, and discharge from the eyes, after the disease has continued some time, there can remain no difficulty whatever. & may be known from no hoarse-cough, from the circumstance of there being no stridulous sound of the voice, no dyspnoea in the intermissions of coughing, and from this last being cow-dugous. one of the chief diagnostic symptoms of Trachitis is, that however great the affection of the larynx may be, the deglutition is free. It has long been a maxim in medicine, even before there were any distinct ideas respecting this complaint, that that species of croupache in which the respiration is impeded, without any redness or swelling appearing in the fauces, is most to be dreaded.



Pravis et illa species angina, (Hartinghous)  
cum guttulis interni musculi sic inflam-  
mantur, ut neque in facibus neque in  
cervice, quidquam adpareat, unde bello  
muito pestifera, Galeno morbus extreme  
peracutus, Hippocrate vero lethalis dicitur"  
Croup may be distinguished from acute asthma  
because in the former there is seldom any  
sputum, whereas in the latter it is one  
of the most striking phenomena of the disease.  
Prognosis. - As appearances are often fallacious  
the physician should be cautious in pro-  
nouncing his opinion, which may involve  
his future reputation; the most favourable  
conclusion may however generally be in-  
ferred, where the febrile and other symptoms  
are relieved by the remedies to be here-  
after mentioned. -  
Method of Cure. - In infants when only



portion, out of our subject, it will be proper to treat of the employment of those remedies which are necessary to remove an attack of Strachitis: and the method to be pursued in obviating a recurrence, and first of Emetics. — Every one must acknowledge the superior efficacy of these, both in the commencement and more advanced stages of this disease; they act as expectorants, clear the trachea of the phlegm and mucus so troublesome in the former stages; and when the lungs imperfectly execute their function, in consequence of being retarded and oppressed, the power of copious vomiting in relieving engorgement, and re-establishing a free and equal circulation, are advantageously known. We enlarged antimony is most undoubtedly every the best we can use, for this purpose; the vicinity, extent



and permanency of its operation; together with its expectorant properties, sufficiently recommend it in this disease: where the emetic action does not act so promptly, as is desired the addition of Sennaria will be found useful. Warm Bath... Experience has, proved this to be an invaluable remedy in cough. The advantages derived from it in promoting the operation of Emetics, are obvious. The patient should be kept in the bath ten or fifteen minutes. — The remedies already mentioned have been known to effect a cure, themselves, and almost invariably so affording relief and moderate the violence of the symptoms. —

Not the least of the remedies, resorted to in this affection, is Blood letting. All authors concur in the propriety of this in Trachitis, and some depend entirely



upon it in the early part of the disease;  
it is to be presumed however, that after  
the febricula has relieved itself by effusion  
this can no longer be avoidable.

The extent to which it should be curried,  
should depend upon the age of the patient,  
habit of body, and more particularly upon  
the state of the pulse. It has been pro-  
posed in this as in similar affections,  
to let blood from the inguinal vein; to  
which some practitioners give the preference.  
In small children where it is difficult  
to procure blood, owing to the smallness  
of the veins, it has been recommended to  
draw blood from the feet and hands. By  
first placing them in warm water.  
Where relief is not obtained by a judicious  
use of all these, or may resort to Top-  
ical Bleeding, by inches or cups to the



also on back of the neck, and if after the application of these, the symptoms continue so alarming as to require immediate attention, Professor Chapman directs bleeding "ad deliquium animi" syncope being induced the impeded respiration, hoarseness, cough and fever, are most commonly considerably alleviated.

Purging - As subservient to the indication of depletion, this is of the greatest importance. Calomel in large doses will be found of infinite service, in procuring evacuations from the alimentary canal, and thereby "carrying off lingering symptoms, obviating a relapse, and confirming convalescence".

Blisters - These are without doubt an excellent remedy; but when considered alone, under the antiphlogistic treatment, they are so far subordinate to the former



going, that when a sudden reduction of excitement is required, but little dependence can be placed in them. As it is probable their utility may be very considerable, in consequence of the depletion they afford in the immediate vicinity of the part where excitement is concentrated they should be applied directly to the trachea.

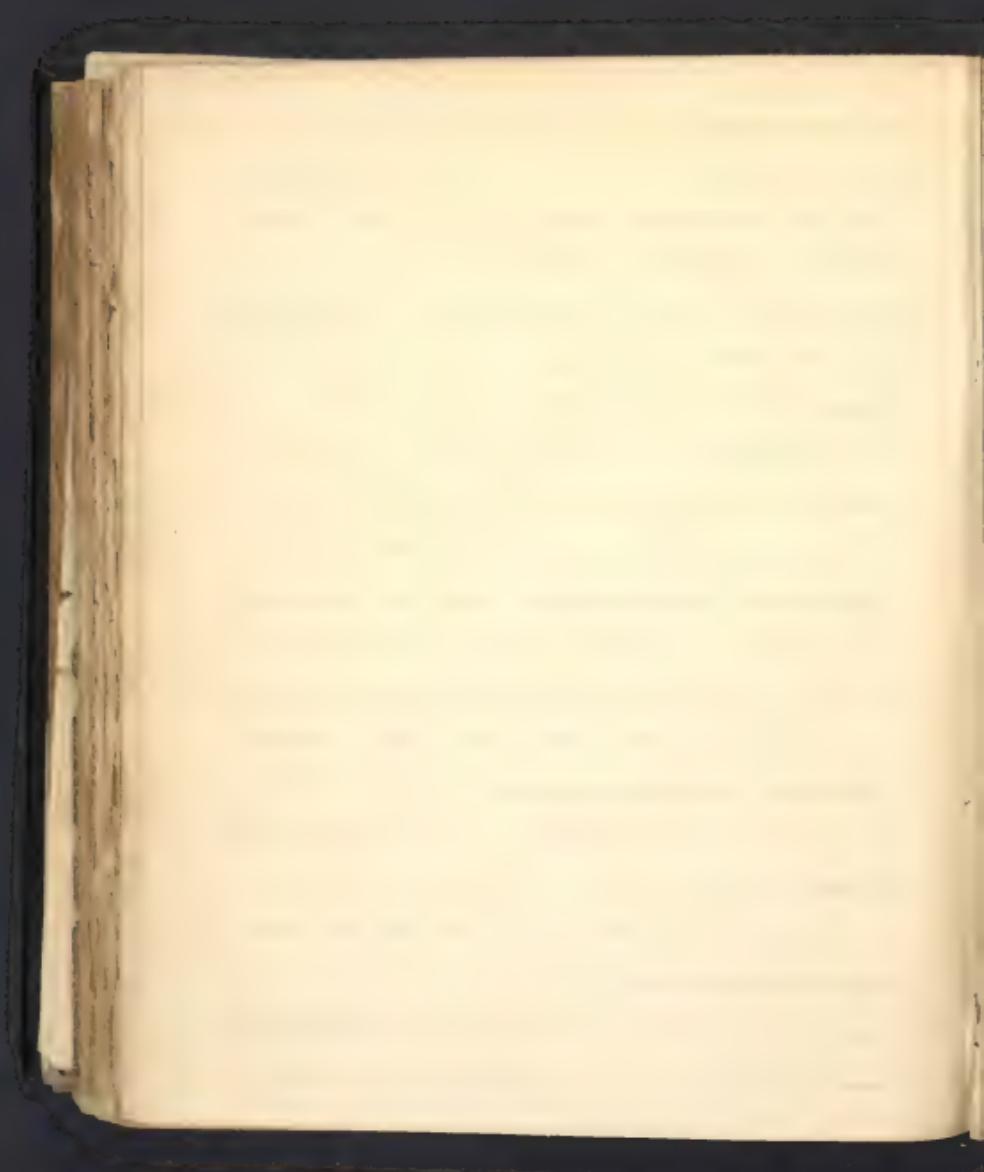
Expectorant. It is in eradication the velocity of croup that these are of signal utility. - Where cough, hoarseness, difficult expectoration, and tightness of the chest remain, the antimonials have been recommended but in my estimation, our chief reliance is to be placed on the *Polygona Seneca* and the *Olive Syrup* of Professor Lowe: adapted to the removal of the sequela of this complaint, there are



no medicine whatever more deserving  
the commendation bestowed on them; their  
superior efficacy in removing the hoarseness  
and cough, in relieving the tightness  
of the chest, and in promoting expectoration,  
must be acknowledged.

Inhalation. — Breathing the vapour of  
warm water impregnated with sycamore  
or elder, proves a good auxiliary in  
assisting expectoration, and in lessening  
the violence of the spasms. "In an agreeable  
manner it acts, whether by mixing with  
and diluting the thick matter, which  
clogs the bronchial vessels, or as a stimulus  
acting on these parts and increasing the  
secretion from them, it is found to lessen  
the cough, to promote expectoration, and  
relieve dyspnoea."

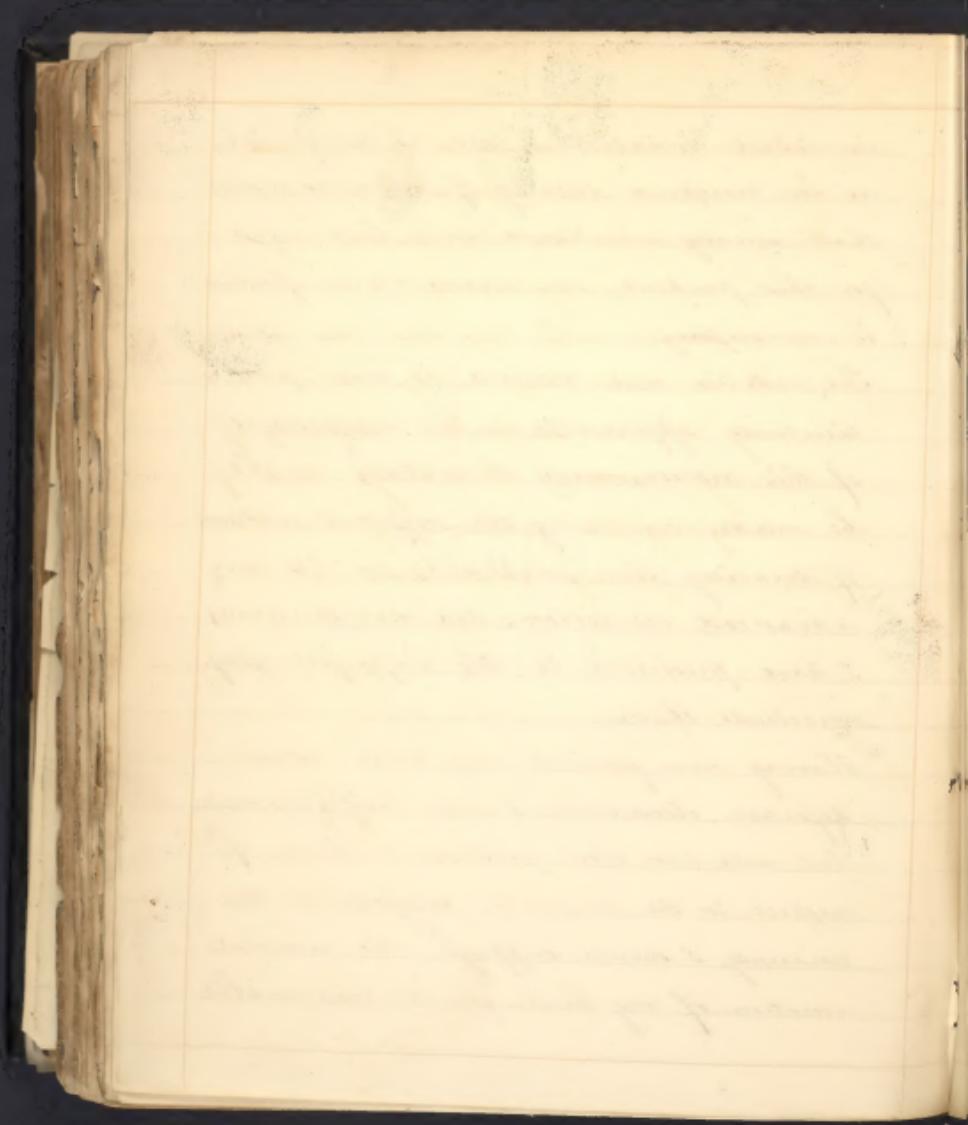
There is, perhaps, no other form of Cynanche,



in which inhalations are as beneficial, as in croup; a variety of substances besides those already mentioned, have been used for this purpose, an enumeration of which is unnecessary.—

The practice here detailed is more particularly applicable to the early stages of this disease; many observations might be made, concerning the different methods of treating the complaint, in its more advanced condition, did not the limits I have prescribed to this imperfect essay preclude them.

Having now finished my short and defective observations, I shall briefly conclude but were I to close without a tribute of respect to the illustrious professors in this university, I should suppress the warmest emotion of my heart for the innumerable



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advantages I have derived from your  
public lectures and private communica-  
-tions, permit me to tender my  
sincere acknowledgement.—

Every student who has had the good  
fortune to visit this college, must be  
convinced of her superior method of  
imparting medical knowledge and of  
the indefatigable exertions of her Pro-  
fessor in giving instruction.—

very strong winds that continue  
and are very bad for the safety  
of the boat. We have to wait for  
the wind to subside. There  
is a strong wind from the south and  
it will not subside for some time. We  
are waiting for the wind to subside  
and to make things easier for us.